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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/720,583 | 11/24/2003 | Moshe Bentolila | CP428 | 5052 |

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| EXAMINER | |
|---|---|
| ALSTRUM ACEVEDO, JAMES HENRY | |
| **ART UNIT** | **PAPER NUMBER** |
| 1616 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 02/01/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/720,583 | BENTOLILA ET AL. | |
| | Examiner | Art Unit | |
| | James H. Alstrum-Acevedo | 1616 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *7-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

**Claims 7-14 are pending.** Applicants cancelled claims 1-6. Applicants have amended claims 7-14. Receipt and consideration of Applicants' amended claim set and remarks/arguments submitted on November 14, 2006 is acknowledged. Applicants' claim amendments necessitated new rejections, for example, a new rejection under 35 U.S.C. 112, 1st paragraph for the introduction of new matter.

### *Moot Rejections/objections*

All rejections and/or objections of claims 1-6 cited in the previous office action mailed on May 17, 2006 **are moot**, because said claims have been cancelled.

### *Specification*

The objection to the disclosure for the improper use of the trademarks PROVIGIL® (pg. 1-3, 6, and 8-10), MODIODAL® (pg. 1), and VIGIL® (pg. 1) **is withdrawn**, per Applicants' amendments capitalizing the cited trademarks.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 7-14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.** The claim(s) contains subject matter, which was

not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The cited claims lack literal written support for "a dissolution rate in 0.1N HCl at 37 °C of more than 80% in 30 minutes." The specification in [0015] and original claim 3 state that the composition may have a dissolution rate of more than 80% in 30 minutes, but do not state that this dissolution rate is for the claimed composition in 0.1N HCl at 37 °C. It is noted that Table 3 provides support for a dissolution rate in 0.1N HCl at 37 °C of 89% in 30 minutes. The cited claims also lack written support for formulations comprising only (i) modafinil particles, (ii) colloidal silicon dioxide (i.e. silica), (iii) crospovidone, and (iv) povidone. It is noted however, that there is support for formulations comprising i) modafinil particles, (ii) colloidal silicon dioxide (i.e. silica), (iii) crospovidone, (iv) povidone, (v) lactose, (vi) talc, and (vii) sodium stearyl fumarate (pg. 4, second paragraph; Example 1, pg. 8, lines 1-3).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

**Claims 7-14 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01.** The omitted elements are: lactose, sodium stearyl fumarate, and talc (see pg. 4, 2nd paragraph of the specification; and Example 1 on pg. 8, lines 1-3).

The rejection of claim 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention **is maintained**, because Applicants' amendments have not corrected the indefiniteness of said claim, but merely introduced indefiniteness for a different reason as discussed below.

***Response to Arguments***

Applicant's arguments filed November 14, 2006 have been fully considered but they are not persuasive. Applicants have traversed the rejection of claim 14 under 35 U.S.C. §112, 2nd paragraph because they believe that the amendments to claim 14 have removed the phrasing and terminology that made said claim indefinite. The Examiner respectfully disagrees. Claim 14 remains indefinite, because an ordinary skilled artisan would be unable to read claim 14 and understand what is being claimed without consulting an outside reference. A definite claim is understandable to a person of ordinary skill in the art on its face or by consulting the disclosure, when the disclosure functions as a dictionary for the terms within a given claim. Whenever a claim requires an ordinary skilled artisan to consult an outside source to understand what is being claimed it is indefinite.

***Claim Rejections - 35 USC § 102***

The rejection of claims 10-14 under 35 U.S.C. 102(b) as being anticipated by Grebow et al. (U.S. Patent No. 5,618,845) ("USPN '845") **is withdrawn**, per Applicants' amendments

requiring the composition to comprise modafinil particles, silicon dioxide, crospovidone, and povidone and exhibit a specific dissolution rate in 30 minutes.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The rejection of claims 7-9 under 35 U.S.C. 103(a) as being unpatentable over Grebow et al. (U.S. Patent No. 5,618,845) ("USPN '845") **is withdrawn**, per Applicants' amendments requiring that the claimed compositions comprise colloidal silicon dioxide, crospovidone, and povidone, characterized by a dissolution rate in 0.1 N HCl at 37 C of more than 80% in 30 minutes.

The rejection of claims 7-14 under 35 U.S.C. 103(a) as being unpatentable over Heacock et al. (U.S. 2004/0048931) ("Heacock") **is withdrawn**, per Applicants' amendments requiring that the claimed compositions comprise colloidal silicon dioxide, crospovidone, and povidone, characterized by a dissolution rate in 0.1 N HCl at 37 C of more than 80% in 30 minutes.

***Response to Arguments***

Applicant's arguments, see pages 7-8, filed November 14, 2006, with respect to the rejection(s) of claim(s) 7-14 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of new prior art combinations necessitated by Applicants' claim amendments.

**Claims 7-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heacock et al. (U.S. 2004/0048931) ("Heacock") in view of Corvari et al. (US 2003/0022940) and Rudnic et al. ("Oral Solid Dosage Forms," In *Remington's Pharmaceutical Sciences*, 18th edition, Mack Pub. Co., Easton, PA: 1990, pp 1633-1637).**

***Applicant Claims***

Applicants claims an oral pharmaceutical composition comprising modafinil particles, colloidal silicon dioxide, crospovidone, and povidone, characterized by a dissolution rate in 0.1 N HCl at 37 °C of more than 80% in 30 minutes, wherein at least 5% of the cumulative total of said modafinil particles have a diameter of more than about 250 microns.

***Determination of the Scope and Content of the Prior Art (MPEP §2141.01)***

The teachings of Heacock were set forth on pages 7-10 of the office action mailed on May 17, 2006. Specifically, Heacock teaches compositions with suitable modafinil particle sizes, such as compositions comprising different sized modafinil particles (see, for example, Examples 3-42, the table in column 9, including compositions comprising particles wherein (a) **20% of the particles have a size of equal to or less than 200 microns** (Ex. 9) and (b) **0-5% of the particles have a size less than or equal to 400 microns** (Ex. 11)). Corvari teaches novel pharmaceutical formulations comprising modafinil and one or more diluents, disintegrants, binders, and lubricants, as well as processes for the preparation of said formulations (title, abstract). Excipients are selected to ensure the delivery of a consistent amount of modafinil in a convenient dosage form and to optimize the cost, ease, and reliability of the manufacturing process. Excipients used in solid oral formulations commonly include, **diluents, binders, disintegrants, lubricants, glidants, surface-active agents**, etc. [0020]. The most common diluent is lactose [0021]. Disintegrants include **cross-linked polyvinylpyrrolidone (e.g. crospovidone NF)** and are included to facilitate dissolution and enhance bioavailability [0023]. A preferred binder includes polyvinyl pyrrolidone, in particular, **povidone** [0024]. Binders are

used as wet granulation excipients to agglomerate the active ingredient, to improve powder flow, to improve compactibility [0024]. Lubricants are used in tablet formulation to prevent sticking of the tablet to punch faces and to reduce friction during the compression stages. Suitable lubricants include salts of stearic acid, such as sodium stearyl fumarate [0025]. The formulations may comprise dosages of 10, 25, 50, and **100 mg of modafinil** in a 250 mg tablet; **200 mg of modafinil** in a 500 mg tablet; 300 mg of modafinil in a 750 mg tablet; and 400 mg of modafinil in a 1,000 mg tablet [0030]. Corvari's method of preparing the invented formulations includes the preparation of tablets, wherein the composition in one step is formed into a dried granulation mixture ([0031]-[0044]). The dried granulation mixture may also be screened to select the desired granule size [0042]. Tablets made by Corvari's process preferably have properties similar to those of PROVIGIL®.

Rudnic teaches that drug substances most frequently are administered orally by means of solid dosage forms, such as tablets and capsules (pg. 1633, left column). In addition to the active ingredient tablets contain a number of inert materials (i.e. excipients or additives) to impart satisfactory processing and compression characteristics to the formulation (e.g. diluents, binders, glidants, and lubricants) or to give additional desirable physical characteristics to the finished tablet (e.g. disintegrants) (pg. 1635, left column). Diluents include lactose (pg. 1635, left column). Binders include lactose, **polyvinyl pyrrolidone**, etc. (pg. 1635, right column). Lubricants prevent adhesion of tablet materials to the surfaces of dies and punches, reduce interparticle friction, facilitate the ejection of tablets from the die cavity, and may improve the rate of flow of the tablet granulation (pg. 1636, right column). Commonly used lubricants include talc, magnesium stearate, stearic acid, calcium stearate, etc. Glidants are substances that

improve the flow characteristics of a powder mixture and **the most commonly used glidant is colloidal silicon dioxide** (pg. 1637, left column). Asbestos-free talc is also used as a glidant and may serve the dual purpose of lubricant/glidant (pg. 1637, left column).

***Ascertainment of the Difference Between Scope the Prior Art and the Claims (MPEP §2141.012)***

Heacock lacks the teaching of modafinil composition comprising colloidal silicon dioxide, crospovidone, and povidone. This deficiency is cured by the teachings of Corvari and Rudnic. Rudnic was provided to demonstrate that colloidal silicon dioxide is a conventional excipient used in oral pharmaceutical formulations.

***Finding of Prima Facie Obviousness Rational and Motivation (MPEP §2142-2143)***

It would have been prima facie obvious to a person of ordinary skill in the art at the time of the instant invention to combine the teachings of Heacock, Corvari, and Rudnic, because Heacock teaches that pharmaceutical formulation of modafinil are most preferably administered orally in the form of a vehicle such as a tablet, which may comprise a pharmaceutically acceptable carrier that may comprise agents to aid solubility, absorption, flavor, color or texture of the vehicle or its contents ([0059], [0060], and [0068]). Examples of suitable carrier material agents taught by Heacock in [0060] include excipients, diluents, binders, disintegrating agents, lubricants, etc. An ordinary skilled artisan would have been motivated to combine the teachings of Heacock and Corvari, because both references are in the same field of endeavor and strive to achieve a similar goal: formulations have properties similar to those of PROVIGIL®. An ordinary skilled artisan would have been motivated to combine the teachings of Heacock and

Corvari, because both references teach oral pharmaceutical modafinil compositions in the form of tablets, comprising additional additives/excipients, and having properties similar to those of PROVIGIL®. It would have been obvious to combine the teachings of Rudnic with those of Heacock and Corvari, because Corvari teaches that modafinil may comprise glidants, and Rudnic identifies suitable glidants, such as colloidal silicon dioxide, which is the most commonly used glidant. Due to the aforementioned similarities an ordinary skilled artisan would have had a reasonable expectation of success upon modification of Heacock's teachings with the combined teachings of Corvari and Rudnic. Applicants' data have been noted. Applicants claim no unexpected or surprising results in the instant specification.

***Other Matter***

The Examiner respectfully suggests inserting a space between numbers and the corresponding units of measurement in claims 7-11 (e.g. 250 μ instead of 250 μ). The Examiner also respectfully suggests Applicants correct the misspelling of the word "in," spelled as "ion," on the last line of page 7 of the instant specification.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are considered relevant prior art, because these taught oral pharmaceutical modafinil compositions (e.g. tablets): US 2005/0192313 (Bacon et al.); US 2005/0038124 (Ceausu et al.); 2005/0034652 (Ceausu et al); and US 2003/0069313 (Miller et al.). The following references are not considered prior art, but are being cited as art of reference,

because these teach oral pharmaceutical modafinil compositions: U.S. Patent No. 7,115,281 (Singh et al.); US 2005/0137264 (Patel et al.); and US 2004/0170683 (Sherman).

**Claims 7-14 are rejected. No claims are allowed.**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Alstrum-Acevedo whose telephone number is (571) 272-5548. The examiner can normally be reached on M-F, 9:00-6:30, with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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